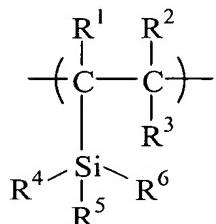


This listing of claims will replace all prior versions, and listings, of claims in the application:

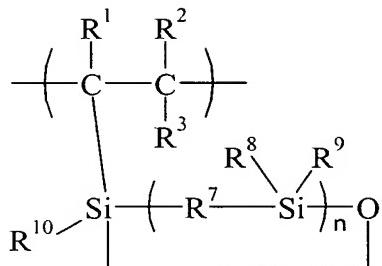
Listing of Claims:

Claim 1 (Currently Amended): A silicon-containing polymer comprising recurring units of at least one of the following general formulae (1) and (2):



(1)

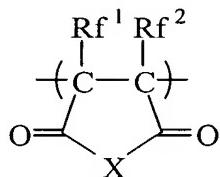
wherein R¹, R² and R³ each are hydrogen or a straight, branched or cyclic alkyl group of 1 to 10 carbon atoms, R⁴ is a silicon-containing group attached to the silicon atom through a silalkylene linkage, R⁵ and R⁶ each are independently an alkyl or haloalkyl group having 1 to 20 carbon atoms, an aryl group having 6 to 20 carbon atoms or a silicon-containing group attached to the silicon atom through a siloxane or silalkylene linkage,



(2)

wherein R¹ to R³ are as defined above, R⁷ is an oxygen atom, a straight, branched or cyclic alkylene group of 1 to 10 carbon atoms or an arylene group, R⁸ to R¹⁰ each are independently a straight, branched or cyclic alkyl or fluorinated alkyl group having 1 to 10 carbon atoms or an aryl group, and n is an integer of 2 to 10.

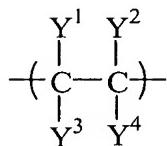
Claim 2 (Original): The silicon-containing polymer of claim 1 further comprising recurring units of the general formula (3):



(3)

wherein X is an oxygen atom, a sulfur atom or -NR-, R is hydrogen, hydroxyl, a straight, branched or cyclic alkyl group of 1 to 10 carbon atoms, or an aryl group, and may contain an acid labile group, Rf¹ and Rf² each are independently hydrogen, fluorine or trifluoromethyl.

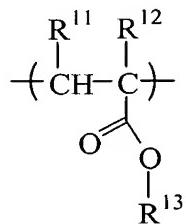
Claim 3 (Original): The silicon-containing polymer of claim 1 further comprising recurring units of the general formula (4):



(4)

wherein Y¹, Y², Y³ and Y⁴ are independently selected from the class consisting of hydrogen, fluorine, chlorine, bromine, cyano, alkoxy carbonyl, fluorinated alkyl and fluorinated alkoxy carbonyl groups.

Claim 4 (Original): The silicon-containing polymer of claim 1 further comprising recurring units of the general formula (5):



(5)

wherein R¹¹ and R¹² each are hydrogen or a straight, branched or cyclic alkyl group of 1 to 10 carbon atoms, and R¹³ is an acid labile group or adhesive group.

Claim 5 (Original): A resist composition comprising the polymer of claim 1.

Claim 6 (Original): A chemically amplified, positive resist composition comprising

- (A) the polymer of claim 1,
- (B) a photoacid generator, and
- (C) an organic solvent.

Claim 7 (Original): The resist composition of claim 6 further comprising (D) a dissolution inhibitor.

Claim 8 (Original): The resist composition of claim 6 further comprising (E) a basic compound.

Claim 9 (Currently Amended): A process for forming a resist pattern comprising the steps of:
applying the resist composition of ~~any one of claims 5 to 8~~ claim 5 onto a substrate to form a resist layer,

heat treating the resist layer and then exposing it to high-energy radiation having a wavelength of up to 300 nm or electron beam through a photo mask, and
optionally heat treating the exposed resist layer and developing it with a developer.

Claim 10 (Currently Amended): A process for forming a resist pattern comprising the steps of:

applying the resist composition of ~~any one of claims 5 to 8~~ claim 5 onto a processable substrate formed on a support substrate through an organic film to form a resist layer,

heat treating the resist layer and then exposing it to high-energy radiation having a wavelength of up to 300 nm or electron beam through a photo mask,

optionally heat treating the exposed resist layer and developing it with a developer,
and

treating the organic film and the processable substrate by an etching process including

oxygen plasma etching at the portions where the exposed resist layer portions are removed by developing.

Claim 11 (Original): The process of claim 10 wherein the organic film is a novolac resin or polyhydroxystyrene layer.

Claim 12 (Currently Amended): A process for forming a resist pattern comprising the steps of:

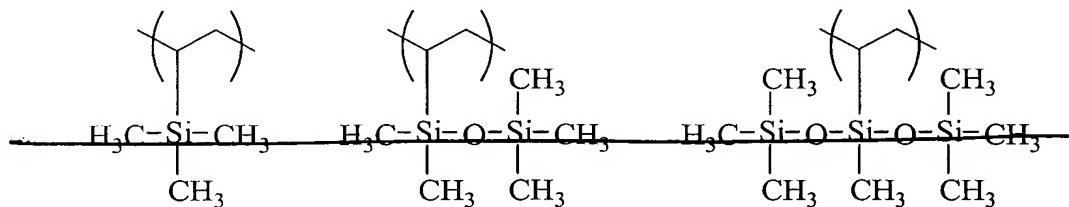
applying the resist composition of ~~any one of claims 5 to 8~~ claim 5 onto a processable substrate formed on a support substrate to form a resist layer,

heat treating the resist layer and then exposing it to high-energy radiation having a wavelength of up to 300 nm or electron beam through a photo mask,

optionally heat treating the exposed resist layer and developing it with a developer, and

treating the processable substrate by an etching with a halogen gas containing chlorine or bromine at the portions where the exposed resist layer portions are removed by developing.

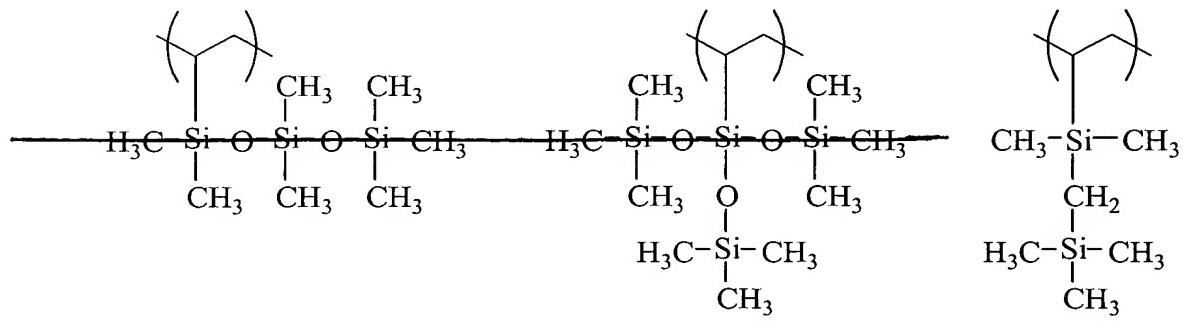
Claim 13 (Currently Amended): The silicon-containing polymer of claim 1, wherein the recurring unit of formula (1) is at least one of formulae (1)-1 to (1)-8



(1)-1

(1)-2

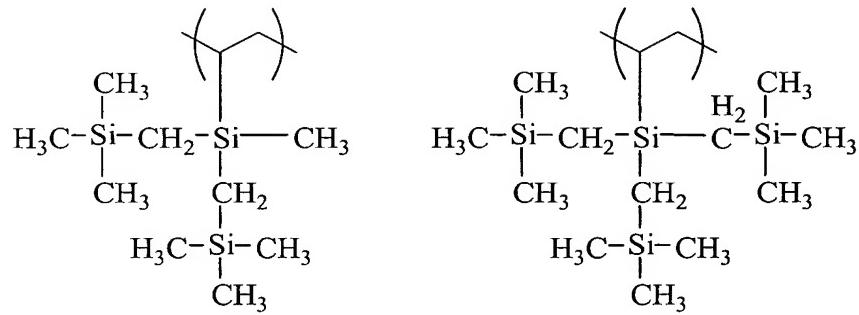
(1)-3



(1)-4

(1)-5

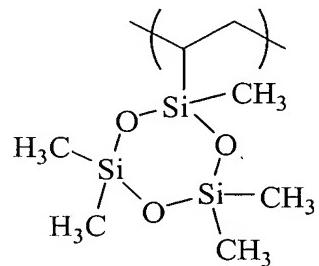
(1)-6



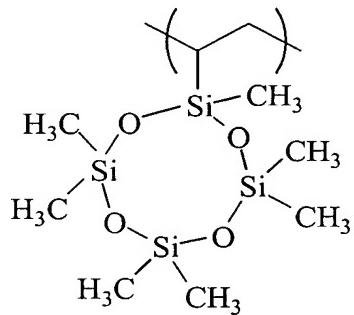
(1)-7

(1)-8

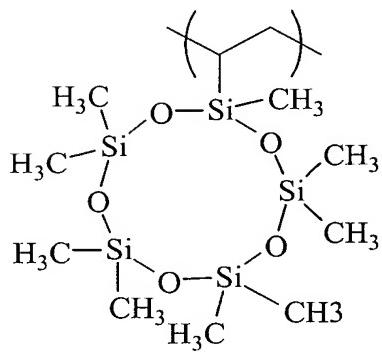
Claim 14 (Currently Amended): The silicon-containing polymer of claim 1, wherein the recurring unit of formula (2) is at least one of formulae (2)-1 to (2)-4 (4)-8



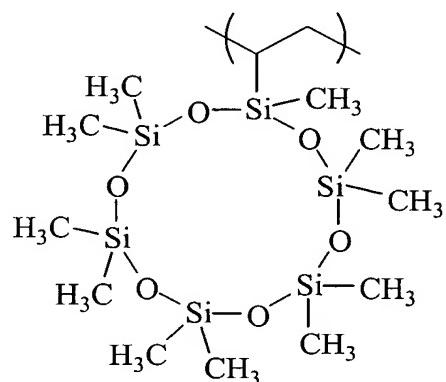
(2)-1



(2)-2

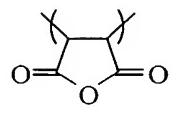


(2)-3

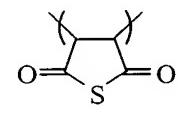


(2)-4

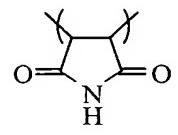
Claim 15 (Previously Presented): The silicon-containing polymer of claim 2, wherein the recurring unit of formula (3) is at least one of formulae (3)-1 to (3)-11



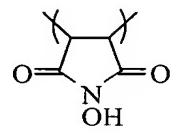
(3)-1



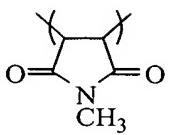
(3)-2



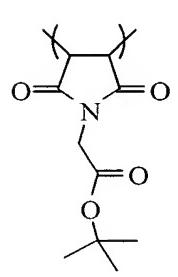
(3)-3



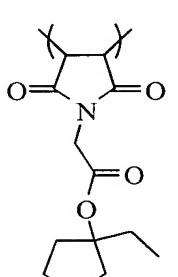
(3)-4



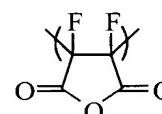
(3)-5



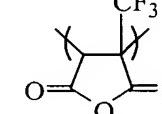
(3)-6



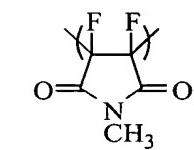
(3)-7



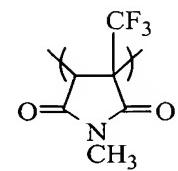
(3)-8



(3)-9

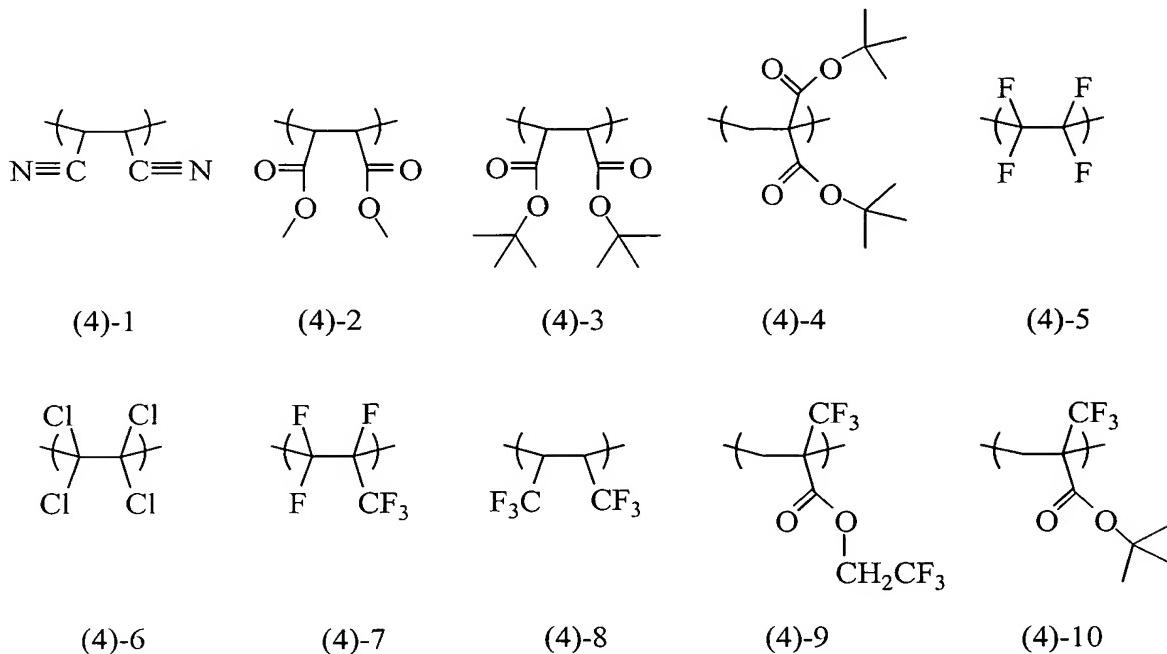


(3)-10

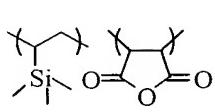


(3)-11

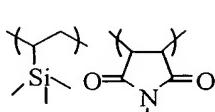
Claim 16 (Previously Presented): The silicon-containing polymer of claim 3, wherein the recurring unit of formula (4) is at least one of formulae (4)-1 to (4)-10



Claim 17. (New): A silicon containing polymer selected from the group consisting of polymers A to J



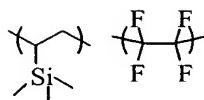
Polymer-A



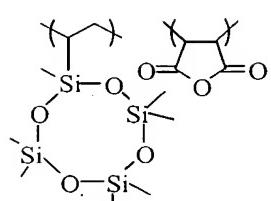
Polymer-B



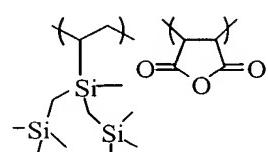
Polymer-C



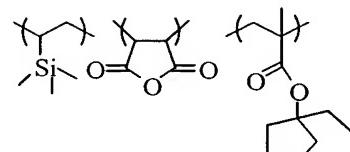
Polymer-D



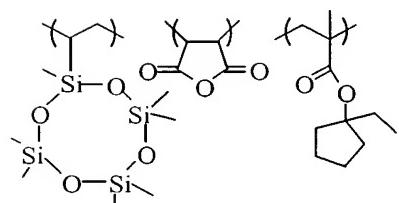
Polymer-E



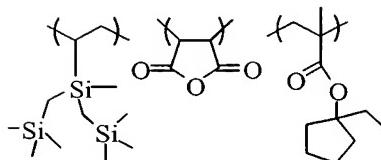
Polymer-F



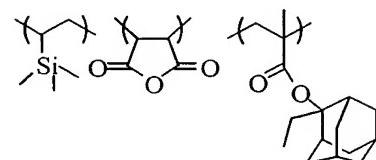
Polymer-G



Polymer-H



Polymer-I



Polymer-J

Claim 18. (New): A chemically amplified, positive resist composition comprising

- (A) the polymer of claim 2,
- (B) a photoacid generator, and
- (C) an organic solvent.

Claim 19. (New): A chemically amplified, positive resist composition comprising

- (A) the polymer of claim 3,
- (B) a photoacid generator, and
- (C) an organic solvent.

Claim 20. (New): A chemically amplified, positive resist composition comprising

- (A) the polymer of claim 4,
- (B) a photoacid generator, and
- (C) an organic solvent.

Claim 21. (New): A chemically amplified, positive resist composition comprising

- (A) the polymer of claim 17,
- (B) a photoacid generator, and
- (C) an organic solvent.

Claim 22 (New): A process for forming a resist pattern comprising the steps of:

applying the resist composition of claim 6 onto a substrate to form a resist layer,
heat treating the resist layer and then exposing it to high-energy radiation having a
wavelength of up to 300 nm or electron beam through a photo mask, and
optionally heat treating the exposed resist layer and developing it with a developer.

Claim 23 (New): A process for forming a resist pattern comprising the steps of:

applying the resist composition of claim 6 onto a processable substrate formed on a
support substrate through an organic film to form a resist layer,
heat treating the resist layer and then exposing it to high-energy radiation having a
wavelength of up to 300 nm or electron beam through a photo mask,

optionally heat treating the exposed resist layer and developing it with a developer,
and

treating the organic film and the processable substrate by an etching process including
oxygen plasma etching at the portions where the exposed resist layer portions are removed by
developing.

Claim 24 (New): A process for forming a resist pattern comprising the steps of:

applying the resist composition of claim 6 onto a processable substrate formed on a
support substrate to form a resist layer,

heat treating the resist layer and then exposing it to high-energy radiation having a
wavelength of up to 300 nm or electron beam through a photo mask,

optionally heat treating the exposed resist layer and developing it with a developer,
and

treating the processable substrate by an etching with a halogen gas containing chlorine or bromine at the portions where the exposed resist layer portions are removed by developing.

Claim 25 (New): A process for forming a resist pattern comprising the steps of:

- applying the resist composition of claim 7 onto a substrate to form a resist layer,
- heat treating the resist layer and then exposing it to high-energy radiation having a wavelength of up to 300 nm or electron beam through a photo mask, and
- optionally heat treating the exposed resist layer and developing it with a developer.

Claim 26 (New): A process for forming a resist pattern comprising the steps of:

- applying the resist composition of claim 7 onto a processable substrate formed on a support substrate through an organic film to form a resist layer,
- heat treating the resist layer and then exposing it to high-energy radiation having a wavelength of up to 300 nm or electron beam through a photo mask,
- optionally heat treating the exposed resist layer and developing it with a developer, and
- treating the organic film and the processable substrate by an etching process including oxygen plasma etching at the portions where the exposed resist layer portions are removed by developing.

Claim 27 (New): A process for forming a resist pattern comprising the steps of:

- applying the resist composition of claim 7 onto a processable substrate formed on a support substrate to form a resist layer,
- heat treating the resist layer and then exposing it to high-energy radiation having a wavelength of up to 300 nm or electron beam through a photo mask,
- optionally heat treating the exposed resist layer and developing it with a developer, and
- treating the processable substrate by an etching with a halogen gas containing chlorine or bromine at the portions where the exposed resist layer portions are removed by developing.

Claim 28 (New): A process for forming a resist pattern comprising the steps of:

- applying the resist composition of claim 8 onto a substrate to form a resist layer,
- heat treating the resist layer and then exposing it to high-energy radiation having a

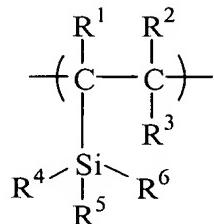
wavelength of up to 300 nm or electron beam through a photo mask, and
optionally heat treating the exposed resist layer and developing it with a developer.

Claim 29 (New): A process for forming a resist pattern comprising the steps of:
applying the resist composition of claim 8 onto a processable substrate formed on a support substrate through an organic film to form a resist layer,
heat treating the resist layer and then exposing it to high-energy radiation having a wavelength of up to 300 nm or electron beam through a photo mask,
optionally heat treating the exposed resist layer and developing it with a developer, and

treating the organic film and the processable substrate by an etching process including oxygen plasma etching at the portions where the exposed resist layer portions are removed by developing.

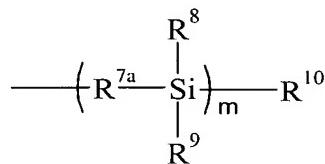
Claim 30 (New): A process for forming a resist pattern comprising the steps of:
applying the resist composition of claim 8 onto a processable substrate formed on a support substrate to form a resist layer,
heat treating the resist layer and then exposing it to high-energy radiation having a wavelength of up to 300 nm or electron beam through a photo mask,
optionally heat treating the exposed resist layer and developing it with a developer, and
treating the processable substrate by an etching with a halogen gas containing chlorine or bromine at the portions where the exposed resist layer portions are removed by developing.

Claim 31. (New): A silicon-containing polymer comprising recurring units of at least one of the following general formulae (1) and (2):

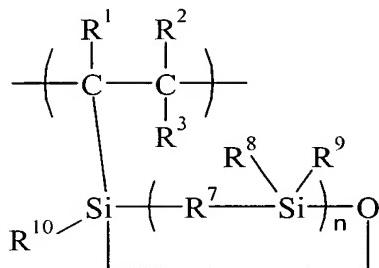


(1)

wherein R¹, R² and R³ each are hydrogen or a straight, branched or cyclic alkyl group of 1 to 10 carbon atoms, R⁵ and R⁶ each are independently an alkyl or haloalkyl group having 1 to 20 carbon atoms, an aryl group having 6 to 20 carbon atoms or a silicon-containing group attached to the silicon atom through a siloxane or silalkylene linkage, R⁴ is a silicon-containing group attached to the silicon atom through a silalkylene linkage of the following formula



wherein R^{7a} is a straight, branched or cyclic alkylene group of 1 to 10 carbon atoms or an arylene group, R⁸ to R¹⁰ each are independently a straight, branched or cyclic alkyl or fluorinated alkyl group having 1 to 10 carbon atoms or an aryl group, m is an integer of 1 to 10,



(2)

wherein R¹ to R³ are as defined above, R⁷ is an oxygen atom, a straight, branched or cyclic alkylene group of 1 to 10 carbon atoms or an arylene group, R⁸ to R¹⁰ are independently as defined above, and n is an integer of 2 to 10.

Claim 32. (New): A chemically amplified, positive resist composition comprising

- (A) the polymer of claim 31,
- (B) a photoacid generator, and
- (C) an organic solvent.

Claim 33 (New): A process for forming a resist pattern comprising the steps of:

applying the resist composition of claim 32 onto a substrate to form a resist layer, heat treating the resist layer and then exposing it to high-energy radiation having a

wavelength of up to 300 nm or electron beam through a photo mask, and
optionally heat treating the exposed resist layer and developing it with a developer.

Claim 34 (New): A process for forming a resist pattern comprising the steps of:
applying the resist composition of claim 32 onto a processable substrate formed on a support substrate through an organic film to form a resist layer,
heat treating the resist layer and then exposing it to high-energy radiation having a wavelength of up to 300 nm or electron beam through a photo mask,
optionally heat treating the exposed resist layer and developing it with a developer,
and
treating the organic film and the processable substrate by an etching process including oxygen plasma etching at the portions where the exposed resist layer portions are removed by developing.

Claim 35 (New): A process for forming a resist pattern comprising the steps of:
applying the resist composition of claim 32 onto a processable substrate formed on a support substrate to form a resist layer,
heat treating the resist layer and then exposing it to high-energy radiation having a wavelength of up to 300 nm or electron beam through a photo mask,
optionally heat treating the exposed resist layer and developing it with a developer,
and
treating the processable substrate by an etching with a halogen gas containing chlorine or bromine at the portions where the exposed resist layer portions are removed by developing.

Claim 36 (New): A silicon-containing polymer comprising recurring units of general formula (2).